

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strike through~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1 and 10 in accordance with the following:

1. (CURRENTLY AMENDED) An apparatus having a plurality of signal inputs and a plurality of signal outputs, comprising:

one or more sub-switch units each having a portion of the signal inputs, which are not all of the signal inputs that the apparatus is able to accommodate, and switching and connecting the portion of the signal inputs to a portion of the signal outputs, which are not all of the signal outputs that the apparatus is able to accommodate, wherein

the one or more sub-switch units are independent from one another and form a non-complete switch, through which all the signal inputs to the apparatus are switched and connected.

2. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, further comprising:

a wavelength demultiplexing unit demultiplexing an input wavelength-multiplexed signal into optical signals respectively having a single wavelength; and

a wavelength multiplexing unit multiplexing the signals respectively having the single wavelengths, which are switched and connected by the one or more sub-switch units, into an output wavelength-multiplexed signal.

3. (PREVIOUSLY PRESENTED) The apparatus according to claim 2, wherein the one or more sub-switch units, to which optical signals are respectively input, switch and connect in units of optical signals.

4. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, further comprising:

an electro-optic converting unit converting an electric signal into an optical signal; and

an opto-electric converting unit converting an optical signal into an electric signal, wherein the one or more sub-switch units respectively switch and connect the electric signals.

5. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, further comprising:

an electro-optic converting unit converting an electric signal into an optical signal;
an opto-electric converting unit converting an optical signal into an electric signal; and
at least one optical switch unit and at least one electric switch unit, both of which are respectively located within the one or more sub-switch units and independently switch input signals to output signals, and

wherein the opto-electric converting unit inputs an electric signal to the electric switch unit and the electro-optic converting unit receives an electric signal from the electric switch unit and outputs an optical signal.

6. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, wherein at least one of the one or more sub-switch units switches and connects in units of wavelength-multiplexed signals.

7. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, wherein at least one of the one or more sub-switch units is a through unit that passes signals through unchanged without switching and connecting the signals.

8. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, further comprising:

a distribution switch unit distributing signals to any of the one or more sub-switch units;
and

a selection switch unit selecting and outputting signals output from the one or more sub-switch units.

9. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, further comprising

a plurality of optical add/drop multiplexers (ADMs), wherein a dropped signal from the optical ADMs is input to the one or more sub-switch units, and an output from the one or more

sub-switch units is added to the optical ADMs.

10. (CURRENTLY AMENDED) A signal switching and connection method for use in an optical node device having a plurality of signal inputs receiving a plurality of signals, and a plurality of signal outputs, the method comprising:

providing a non-complete group switch having one or more independent sub-switch units;

inputting a portion of the plurality of signals into each of the non-complete group switch sub-switch units; and

switching, connecting, and outputting the portion of the signals, wherein all of the plurality of signals are switched and connected by the non-complete group switch by performing said inputting a portion of the plurality of signals and said switching, connecting, and outputting the portion of the signals for all of the signals input to the optical node device.

11. (PREVIOUSLY PRESENTED) The signal switching and connection method according to claim 10, wherein

another portion of the signals input to the optical node device are passed through without being switched and connected.

12. (PREVIOUSLY PRESENTED) The signal switching and connection method according to claim 10, wherein

certain ones of the signals input to the optical node device are switched and connected in units of wavelength-multiplexed signals.

13. (PREVIOUSLY PRESENTED) The signal switching and connection method according to claim 10, further comprising:

passing through a second portion of the signals input to the optical node device without switching and connecting the second portion of the signals;

switching and connecting a third portion of the signals input to the optical node device in units of wavelength-multiplexed signals; and

selecting any of said switching, connecting, and outputting the portion of the signals, said passing through a second portion, and said switching and connecting a third portion, for all

of the signals input to the optical node device.

14. (PREVIOUSLY PRESENTED) The signal switching and connection method according to claim 10, wherein

said switching, connecting, and outputting the portion of the signals comprises selecting a signal to switch and connect using an optical add/drop multiplexer ADM.

15. (PREVIOUSLY PRESENTED) A switch receiving a plurality of signals through a plurality of input ports and outputting the signals through a plurality of output ports, comprising:
a plurality of independent sub-switch units respectively comprising a different portion of the input ports and a different portion of the output ports, each sub-switch unit receiving a different portion of the plurality of signals through the different portion of the input ports, and switching and connecting the different portion of the plurality of signals to the different portion of the output ports,

wherein the plurality of sub-switch units comprises a non-complete switch through which all of the signals are switched.